

# AJAY BHARATHI A

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## SUMMARY

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Aspiring Software Developer with a strong foundation in backend development and a growing interest in building scalable and reliable applications. I have hands-on experience working on academic and project-based implementations involving AI and machine learning, including concepts like RAG pipelines and LLM-based systems. I am familiar with working with data pipelines, and developing cloud-based solutions. I am a motivated and quick learner, seeking an opportunity to apply my skills, gain practical experience, and contribute to the organization while continuously improving myself.

## SKILLS

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<b>Programming Languages :</b>	Python, Java, C
<b>AI &amp; Machine Learning :</b>	Retrieval-Augmented Generation (RAG), AI Agents, Machine Learning, Deep Learning, Neural Networks, NLP & LLMs, Generative AI, LSTM / BiLSTM, Computer Vision, Remote Sensing, Fine-Tuning
<b>Backend &amp; Frameworks :</b>	FastAPI, Flask, Asynchronous Processing, Microservices Architecture
<b>AI Frameworks &amp; Libraries :</b>	PyTorch, TensorFlow, Hugging Face Transformers, Scikit-learn
<b>Cloud &amp; DevOps :</b>	Google Cloud Platform (GCP), AWS, Docker, CI/CD, RunPod (GPU), Linux
<b>Data &amp; Analytics Tools :</b>	PostgreSQL, MongoDB, Pandas, NumPy, Tableau, Power BI, Scapy
<b>Version Control &amp; Collaboration :</b>	Git, GitHub

## EDUCATION

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2023 – Present	<b>B.Tech in Artificial Intelligence and Data Science</b> , Anna University Regional Campus, Coimbatore (CGPA: 8.45)
2020 – 2023	<b>Diploma in Electrical and Electronics Engineering</b> , Government Polytechnic College, Tuticorin (91%)

## EXPERIENCE

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<b>Junior AI Developer(Intern) — O Clock Software Pvt Ltd</b>	Jan 2026 – Present
<ul style="list-style-type: none"><li>Contributing to the development of a Universal Dynamic Adaptive Predictive Model using a custom MAML framework.</li><li>Building an AI-driven multi-tenant dynamic integration platform for diverse client environment.</li><li><b>Tech:</b> PyTorch, Meta-Learning (MAML), Docker, Cloud Deployment</li></ul>	
<b>Software Developer — Project-Based Internship — Dgate-AURCC</b>	Jun – Sep 2024
<ul style="list-style-type: none"><li>Developed backend services and REST APIs for a hostel management web application. Automated workflows for 1500+ student records, reducing manual effort by 40%.</li><li>Integrated a RAG-based document search feature to enhance information retrieval.</li><li><b>Tech:</b> Python, FastAPI, MongoDB, Firebase, Docker, React, RAG</li></ul>	

## PROJECTS

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- **GUIDORA — Career Intelligence Web Platform**

Designed and developed a cloud-based career guidance platform with resume processing, psychometric assessment, and personalized career recommendations. Built backend APIs and integrated a RAG-based AI system for resume analysis, roadmap generation, and mock interview workflows.

*Tech:* FastAPI, React, MongoDB, Docker, GCP, RAG, Google Gemini

- **VELORA — Developer Productivity Agent for VS Code (IBM TechXchange 2025)**

Developed a VS Code extension that restructures Python projects into maintainable codebases by auto-generating folders, documentation, boilerplate files, and refactoring imports using AI-assisted automation.

*Tech:* Python, TypeScript, VS Code Extension API, AI Agents, LLMs

- **OCR-Based Document Intelligence & Voice Automation System**

Built a document intelligence system with column-aware OCR extraction and semantic search using a RAG pipeline for document understanding, summarization, and Q&A. Integrated text-to-speech for automated accessibility workflows.

*Tech:* Python, EasyOCR, Computer Vision, RAG, LLMs, Vector Database, ElevenLabs API

- **ISRO Lunar DEM Reconstruction — Physics-AI Hybrid Pipeline**

Implemented a Shape-from-Shading pipeline combining photometric modeling and CNN residual learning to generate high-resolution lunar Digital Elevation Models from mono imagery.

*Tech:* Python, PyTorch, OpenCV, NumPy, Scientific Computing

- **URL Attack Detection System (NTRO) — SIH 2025 Winner**

Designed a hybrid intrusion detection system combining signature-based methods and BiLSTM-based anomaly detection to identify 13+ URL-based cyberattacks.

*Tech:* Python, FastAPI, PyTorch, Scapy, Zeek, MongoDB, Docker

- **FarmCo-Pilot — Agricultural Intelligence & MRV Platform**

Developed a satellite-driven agricultural intelligence platform integrating weather, soil, and geospatial data to generate farm-level crop recommendations and sustainability insights.

*Tech:* Python, Geospatial Data Processing, Data Pipelines, Satellite Data, React, SQL

## ACHIEVEMENTS

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- **Smart India Hackathon (SIH) 2025 — Winner (1st Prize 1,50,000)**

Secured 1<sup>st</sup> place among 68,778+ teams for developing a Hybrid Multi-Layer Intrusion Detection System (IDS) for NTRO to identify 13+ URL-based cyberattacks.

- **Bharat Antariksh Hackathon 2025 (ISRO, NRSC) — Grand Finale, Top 30**

Developed a high-resolution Lunar DEM Photoclinometry pipeline under ISRO guidance.

- **IBM TechXchange 2025 International Hackathon — Top 50 Worldwide**

Built **VELORA IBM Agent**, an AI-powered VS Code automation tool.

- **Google Cloud Gen AI Exchange Hackathon 2025 — Shortlisted**

Recognized for **GUIDORA**, an AI-powered career guidance platform using Google Cloud and Gemini APIs.

## CERTIFICATIONS

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- **NPTEL** – Introduction to Large Language Models (Issued May 2025)

- **Google Cloud** – Introduction to Generative AI (Issued Jun 2025)

- **NVIDIA** – Disaster Risk Monitoring Using Satellite Imagery (Issued Jul 2025)

- **Oracle** – Certified Foundations Associate: Blockchain and Cloud Computing (Issued May 2024).

- **Deeplearning.AI** – An Advanced Retrieval Augmented Generation (RAG) Course (Issued Nov 2025).